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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/978,475	10/16/2001	Kenneth Rose	M-11446 US	5139

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EXAMINER
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TANG, KAREN C

ART UNIT	PAPER NUMBER
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2151

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/18/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

09/978,475

Applicant(s)

ROSE ET AL.

Examiner

Karen C. Tang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

- This action is responsive to the amendment and remarks file on 3/5/07.
- Claims 1-37 are amended are for further examination.

### **DETAILED ACTION**

#### ***Response to Arguments***

Applicant's arguments filed 3/5/07 have been fully considered but they are not persuasive.

Applicant has argued that there is no teaching or fair suggestion of a transmitting device transmitting data at three non-zero rates. Rather, column 8, lines 15-60 of Kalkunte describe transmitting three data packets at a single, constant rate. Again, Applicants assert that nothing within column 8, lines 15-60 indicates that the data rate at which the network switch 12 transmits data is different from the alleged first and second non-zero transmission rates allegedly taught in column 1, lines 40-60 and column 5, lines 55-67 of Kalkunte.

The Office Action asserts that Lee discloses transmitting data at a third non-zero rate which is greater than a second non-zero rate, and wherein the second non-zero rate is greater than the first non-zero rate citing paragraphs 44, 54-60, 62, and 68 of Lee in support thereof. Applicants have reviewed these paragraphs of Lee and find no teaching or fair suggestion of transmitting data at three consecutively greater transmission rates. The cited paragraphs of Lee, on the other hand, are concerned with an arbitration scheme for selecting an order in which packets from various input use are transmitted to an output queue, and the scheme is based upon packet weight and priority. At best, the cited paragraphs of Lee might teach a device which is capable of transmitting a data at three consecutively greater transmission rates; however, the cited paragraphs of Lee do not expressly or inherently teach transmitting data at three consecutively

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greater transmission rates. Applicants request the Examiner to provide citation to a reference which expressly or inherently discloses a device for transmitting data at three consecutively greater transmission rates rather than providing citations to paragraphs that describe a device that might be able to transmit data at three consecutively data non-zero transmission rates. Applicants reserve the right to contest the stated reasons for combining Kalkunte and Lee.

Applicant further argued that there is no teaching or fair suggestion of generating a rate control signal based upon a comparison of a first data quantity value to a plurality of predetermined values.

Examiner respectfully traversed the argument – despite Applicant’s allegation, Kalkunte has taught transfer data at three non-zero rate. Kalkunte’s invention is based on the rate-control scheme, to further clarify applicant’s confusion, please direct the attention to Col 5, Lines 25-35, where, there are data rates, different rate is being utilized, R14, R24, and R34, therefore, there is “*three non-zero rate*”, there is never a indication that a “*constant rate*” being applied to each data packet as alleged by the applicant. Further, Kalkunte further indicate that the transmission rate is “*toggled*” between the wire rate and a control rate. Kalkunte’s invention provides the fact that the system would sent a particular rate, until reception of another rate control frame specifying another transmission control (refer to Col 8, Lines 5-10). Each data packet, is transmitted via the desired transmission rate (refer to Col 8, Lines 30-36). Fig 2 even further describe the transmission is transmitted via different transmission rate at different port. However, Kalkunte also indicate that due to different size of the package, it caused the different delay time (refer to Col 9, Lines 10-20), hence, each different packet is transmitted via their own

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rate, and furthermore, the system has capability to reduce the transmission rate of the network nodes.

It has been indicated that Kalkunte did not expressly disclose wherein the third non-zero rate is greater than the second non-zero rate, and wherein the second non-zero rate is greater than the first non-zero rate.

Lee disclosed wherein the third non-zero rate is greater than the second non-zero rate, and wherein the second non-zero rate is greater than the first non-zero rate (refer to 0044, 0054-0060, 0062, 0068). Although, Applicant alleged in Lee's, the data is transmitted from several devices,

In light of applicant's *specification* (page 10, lines 20-30), it is indicated that *the switching fabric may include first, second, and third input FIFO buffers for receiving and storing data from line cards 204, 206, 208, respectively. In response to receiving  $q1(t)$  and  $q2(t)$ , formatter (page 12) compared to the threshold (page 13)*. It is being interpreted that the FIFO input buffers in the switching fabric, received the data from various buffers and stored the data in the memory (Fig 2 of applicant's drawing). Similarly, both Kalkunte and Lee transmitted the data from several input queues, with different rates, into a memory. The queues are within the device, therefore, is being considered as one single device. The base in light of specification, unless there are new enablement or new matter that applicant is trying to describe/argued but failed to claimed in the claim language, both Kalkunte and Lee combined, do read on the claimed limitations.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., *transmitting*

*data at three consecutively greater transmission rates*) are not recited in the rejected claim(s).

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Kalkunte disclosed comparing the first data quantity value to a plurality of determined values, wherein the first predetermined value is one of the plurality of first predetermined values (refer to Col 5, Lines 25-55, each data is being compared to the threshold T1, wherein the T1 is the sum of the plurality of determined values: monitoring/comparing relative contribution by each input buffer to the total network traffic received.);

wherein the rate control signal is generated in response to comparing the first quantity value to the plurality of predetermined values (refer to Col 8, Lines 15-60, the rate control signal being generated whenever the congestion being detected, Col 5, Lines 5-15, in order to determined the port is congested, which is response to comparing the first quantity value to the plurality of predetermined values.).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kalkunte et al hereinafter Kalkunte (US 6,118,761) in view of Lee et al hereinafter Lee et al hereinafter Lee (US 2002/0048280).

1. Referring to Claims 1, and 18, Kalkunte disclosed a transmitting device transmitting data at a first non-zero rate to a memory for storage (FIFO) therein during a first period of time (refer to Col 1, Lines 40-60 and Col 5, Lines 55-67);

the transmitting device transmitting data at a second non-zero rate to the memory for storage therein during a second period of time (refer to Col 5, Lines 55-67);

wherein the second period of time is subsequent to the first period of time and (refer to Col 8, Lines 15-60).

Kalkunte disclosed the transmitting device transmitting data at a third non-zero rate to the memory for storage therein during a third period of time (refer to Col 8, Lines 15-60);

storage therein during a third period of time (refer to Col 8, Lines 1-15);

Kalkunte disclosed wherein the third period of time is subsequent to the first period of time (refer to Col 8, Lines 15-60),

Kalkunte did not expressly disclose wherein the third non-zero rate is greater than the second non-zero rate, and wherein the second non-zero rate is greater than the first non-zero rate.

Lee disclosed disclose wherein the third non-zero rate is greater than the second non-zero rate, and wherein the second non-zero rate is greater than the first non-zero rate (refer to 0044, 0054-0060, 0062, 0068).

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At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Kalkunte and Lee since the invention are analogous.

The suggestion/motivation would have been that by indicate the priority of the flows maintain the throughput of the system as well as by and can reducing process time by sending the urgent data without processing internally first.

2. Referring to Claims 2, 11, 19, and 25, Kalkunte disclosed wherein the memory device comprises a FIFO buffer (refer to Col 1, Lines 40-55):

3. Referring to Claims 3, 12, 20, and 26, Kalkunte disclosed wherein the transmitting device is contained in a switching fabric (refer to Col 1, Lines 40), wherein the memory is contained in a line card coupled to the switching fabric via a data link (Fig 1, 18, 20 and 12, and Col 4, Lines 15-50), and wherein the transmitter transmits data via the data link to the memory for storage therein (refer to Col 4, Lines 15-35).

4. Referring to Claims 4 and 21, Kalkunte disclosed a transmit signal (refer to rate control frame, Col 2, Lines 50-67, Col 7, Lines 45-67); and transmitting the rate control signal to the transmitting device to instruct the transmitting device to stop transmitting data at the first non-zero rate and start transmitting data at the second non-zero rate (refer to Col 2, Lines 50-67);



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wherein the transmitting device stops transmitting data to the memory device at the first data rate and starts transmitting data to the memory device at the second data rate in response to the transmitting device receiving the rate control signal (refer to Col 3, Lines 1-20 ).

5. Referring to Claims 5, 13, 22, and 27, Kalkunte disclosed generating first data quality value representing a quantity of data stored in the memory device at a first point in time; comparing the first data quality value to a first predetermined value (refer to Col 6, Lines 15-55); wherein the rate control signal is generated in response to comparing the first data quantity value to the first predetermined value (refer to Col 6, Lines 55-67).

6. Referring to Claims 6 and 23, Kalkunte disclosed comparing the first data quantity value to a plurality of determined values, wherein the first predetermined value is one of the plurality of first predetermined values (refer to Col 5, Lines 25-55); wherein the rate control signal is generated in response to comparing the first quantity value to the plurality of predetermined values (refer to Col 8, Lines 15-60).

7. Referring to Claims 7 and 15, Kalkunte disclosed generating a second data quantity value representing a quality of data stored in the memory device at a second point in time, wherein the second point in time is prior to the first point in time (refer to Col 8, Lines 15-40); compare first data quantity value to the second data quantity value (refer to Col 7, Lines 1-10); wherein rate control signal is generated if the first data quantity value is not equal to the second data quantity value (refer to Col 9, Lines 25-45).

8. Referring to Claim 8, Kalkunte disclosed generating total data input count at the first point in time, wherein the total data input count represents a quantity of data input to the memory during a period of time ending in the first point in time (refer to Col 5 Lines 40-55);  
generating total data output count at the first point in time, wherein the total data output count represents a quantity of data output from the memory device during the period of time ending in the first point in time (refer to Col 5, 40-55);  
subtracting the total data output count from total data input count (Col 5, Lines 40-67).

9. Referring to Claims 9 and 17, Kalkunte disclosed wherein the second non-zero rate is greater than the first non-zero rate if the second data quantity value is less than the first data quantity value, and wherein the second non-zero rate is less than the first non-zero rate if the second data quantity value is less than the first data quantity value (it is obvious that the data quantity is large, the rate is much slow, and at the same time, if the data quantity is small, the rate is fast).

10. Referring to Claim 14, Kalkunte disclosed a plurality of comparing circuits, each one of which is configured to compare the first data quantity value to a respective one of a plurality of predetermined values (refer to Col 6, Lines 25-67), wherein the first comparing circuit is one of the plurality of comparing circuits, and wherein the first predetermined value is one of the plurality of first predetermined values (refer to Col 6, Lines 15-67);

11. Referring to Claim 16, Kalkunte disclosed wherein the first and second circuits are the same circuits (refer to Fig 1, 26 and 28).

12. Referring to Claims 10 and 24, Kalkunte disclosed a memory device configured to receive data from a transmitting device for storage therein (refer to Col 5, Lines 55-67);  
a circuit configured to generate and transmit a rate control signal instructing the transmitting device to stop transmitting data to the memory device at a first nonzero rate and to begin transmitting data to the memory device at a second nonzero rate (refer to Col 6, Lines 55-67);  
wherein the second non-zero rate is greater than or less than the first non-zero rate (refer to Col 6, Lines 25-67).

13. Referring to Claims 28-37, referring to limitation of Claims 1- 27.

### ***Conclusion***

**Examiner's Notes:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s)

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the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen C. Tang whose telephone number is (571)272-3116. The examiner can normally be reached on M-F 7 - 3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571)272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KT

  
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